

### **REMARKS**

This responds to the Office Action mailed on October 14, 2005.

Claim 28 is amended. Claims 1-34 remain pending in this application.

#### **§112 Rejection of the Claims**

**Claims 28-31 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.**

The Applicant has amended claim 28 to replace the specific "Ethernet" with the generic "high-speed LAN protocol" as suggested by the Examiner on page 16 of the Final office Action. The Applicant respectfully submits that the amendment should be entered and the rejection should be withdrawn.

#### **§102 Rejection of the Claims**

**Claims 1-5, 7, 8, 11-14, 19-21, 23, 24 and 27 were rejected under 35 USC § 102(e) as being anticipated by *Van Wageningen et al.* (U.S. Publication No. 2003/0152082). The Applicant respectfully traverses the rejection.**

For a claim to be anticipated under 35 USC ' 102, a single reference must disclose each and every element and each and every relationship between elements.

#### **Independent Claim 1**

The Applicant submits that *Van Wageningen et al.* do not disclose each and every element or each and every relationship of the apparatus recited in claim 1. For example, *Van Wageningen et al.* do not disclose "a controller to continually maintain an aggregate count of data ready for transmission to the destinations and determine next queue to transmit data from based at least partially on the aggregate counts", as required by claim 1.

The Examiner contends that this controller element is disclosed in paragraphs 43-46 of the cited reference (functions of the arbiter). These paragraphs disclose that a port control system has a storage unit 10 for storing queues and a storage unit 11 for storing states of the queues. The queue states are updated when cells are received or transmitted for the associated queue. A weighting is selected to be sent to an arbiter based on the states. There is nothing in these paragraphs that discloses how a next queue is selected, continually maintaining an aggregate count for each destination, or selecting a next queue based on this aggregate count, as required by claim 1.

It appears to the Applicant that the Examiner is equating the arbiter to the claimed controller element. *Van Wageningen et al.* disclose the arbiters selecting optimum configurations based on weightings received (see paragraph 40). However, the arbiter will not have the most current weightings as the weightings are updated faster than the arbiter can receive the updates (see paragraph 0009). Accordingly, *Van Wageningen et al.* disclose selecting weightings to transmit to arbiters based on numerous factors including a round robin of weightings amended, a round robin of weightings not amended, number of times weightings were transmitted, and difference between current weighting and previously sent weighting (for example see paragraphs 0051 – 0061). The weightings are distributed across different arbiters associated with different switch cards (for example see paragraphs 0064- 0079). The arbiters select optimum configurations based on weightings received (see paragraph 40).

As only selected weightings are provided to different arbiters it is clear that there can be no continuous aggregate count that is maintained for the destinations, as required by claim 1. Moreover, if there is no aggregate count a decision about a next queue can not be made based thereon.

In the response to arguments, the Examiner submits that aggregate counts are disclosed because the weightings are transmitted to the arbiter and a table is maintained that tracks what was sent to the arbiter. However, as noted above the weightings are updated more often than they are transmitted to the arbiter so that the table need not, and likely doesn't, contain the latest weightings. In fact, differences between current weightings and the recently sent weightings are calculated and used as a basis for determining which weighting to transmit (see paragraph 0061).

Moreover, there is no disclosure or suggestion regarding aggregating the weightings tracked in the tables per destination. Claim 1 recites that the aggregate count is for destinations.

For at least the reasons discussed above, the Applicant submits that the Examiner has clearly not established a prima facie case of anticipation. Accordingly, claim 1 is submitted to be clearly patentable over *Van Wageningen et al.* The Applicant respectfully submits that the rejection of claim 1 should accordingly be withdrawn.

Claims 2-5, 7, 8, 11-14

Claims 2-5, 7, 8, and 11-14 depend from claim 1 and are therefore submitted to be patentable over *Van Wageningen et al.* for at least the same reasons discussed above with respect to claim 1 and for the further features recited therein. The Applicant respectfully requests the rejection of claims 2-5, 7, 8 and 11-14 be withdrawn.

Independent Claim 19

The Applicant submits that *Van Wageningen et al.* do not disclose each and every element or each and every relationship of the method recited in claim 19. For example, *Van Wageningen et al.* do not disclose “maintaining an continuous aggregate count of data eligible for transmission to the destinations” or “selecting a next queue to transmit data from based at least partially on the aggregate counts”, as required by claim 19.

For reasons at least similar to those advanced above with respect to claim 1, the Applicant submits that the Examiner has clearly not established a prima facie case of anticipation. Accordingly, claim 19 is submitted to be patentable over the cited reference. The Applicant respectfully submits that the rejection of claim 19 should accordingly be withdrawn.

Claims 20, 21, 23, 24 and 27

Claims 20, 21, 23, 24 and 27 depend from claim 19 and therefore are submitted to be patentable over the cited reference for at least the same reasons as claim 19 and for the further features recited therein. The Applicant respectfully submits that the rejection of claims 20, 21, 23, 24 and 27 should accordingly be withdrawn.

**AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116**

Serial Number: 10/622,285

Filing Date: July 18, 2003

Title: MAINTAINING AGGREGATE DATA COUNTS FOR FLOW-CONTROLLABLE QUEUES

Assignee: Intel Corporation

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§103 Rejection of the Claims

**Claims 28-31 were rejected under 35 USC § 103(a) as being unpatentable over *Van Wageningen et al.* in view of *Oelke et al.* (U.S. Publication No. 2003/0200330).** The Applicant respectfully traverses the rejection.

Independent Claim 28

The Applicant submits that neither *Van Wageningen et al.*, *Oelke et al.* or any reasonable combination thereof, disclose or suggest the device recited in claim 28. For example, neither reference disclose or suggest a processor to maintain a continuous aggregate count. The Applicant submits that *Wageningen et al.* clearly do not disclose or suggest the processor element for at least similar reasons to those addressed above with respect to claim 1. The Examiner does not rely on *Oelke et al.* for disclosing the elements deficient from the teachings of *Wageningen et al.* (e.g., processor element) and the Applicant submits that *Oelke et al.* do not disclose or suggest these elements. Therefore, even assuming *arguendo* that there was sufficient motivation to combine these references (without conceding or acknowledging that there is), the combination would not result in an embodiment such as that described in claim 28. The Applicant submits claim 28 is clearly patentable over the cited references. The Applicant respectfully submits that the rejection of claim 28 should accordingly be withdrawn.

Claims 29-31

Claims 29-31 depend from claim 28 and therefore are submitted to be patentable over the cited reference for at least the same reasons as claim 28 and for the further features recited therein. The Applicant respectfully submits that the rejection of claims 29-31 should accordingly be withdrawn.

**Claims 9, 10, 15-18, 25, 26, and 32-34 were rejected under 35 USC § 103(a) as being unpatentable over *Van Wageningen et al.* in view of *Ahlfors et al.* (U.S. Publication No. 2002/0126683).** The Applicant respectfully traverses the rejection.

### Claims 9-10 and 15-18

Claims 9, 10 and 15-18 depend from claim 1. The Applicant submits that neither *Van Wageningen et al.*, *Ahlfors et al.* or any reasonable combination thereof, disclose or suggest the apparatus recited in claim 1 or the claims that depend therefrom. For example, neither reference disclose or suggest “a controller to continually maintain an aggregate count of data ready for transmission to the destinations and determine next queue to transmit data from based at least partially on the aggregate counts”, as required by claim 1. The Applicant submits that *Wageningen et al.* clearly do not disclose or suggest the controller element for the reasons discussed above with respect to claim 1. The Examiner does not rely on *Ahlfors et al.* for disclosing the elements deficient from the teachings of *Wageningen et al.* (e.g., controller element) and the Applicant submits that *Ahlfors et al.* do not disclose or suggest these elements. Therefore, even assuming *arguendo* that there was sufficient motivation to combine these references (without conceding or acknowledging that there is), the combination would not result in an embodiment such as that described in claim 1 or those that depend therefrom. The Applicant submits claims 9, 10, and 15-18 are clearly patentable over the cited references. The Applicant respectfully submits that the rejection of claim 9, 10, and 15-18 should accordingly be withdrawn.

### Claims 25 and 26

Claims 25 and 26 depend from claim 19. The Applicant submits that neither *Van Wageningen et al.*, *Ahlfors et al.* or any reasonable combination thereof, disclose or suggest the method recited in claim 19 or the claims that depend therefrom. For example, neither reference disclose or suggest “maintaining an continuous aggregate count of data eligible for transmission to the destinations” or “selecting a next queue to transmit data from based at least partially on the aggregate counts”, as required by claim 19. The Applicant submits that *Wageningen et al.* clearly do not disclose or suggest these elements for the reasons discussed above with respect to claim 19. The Examiner does not rely on *Ahlfors et al.* for disclosing the elements deficient from the teachings of *Wageningen et al.* and the Applicant submits that *Ahlfors et al.* do not disclose or suggest these elements. Therefore, even assuming *arguendo* that there was sufficient motivation to combine these references (without conceding or acknowledging that there is), the

combination would not result in an embodiment such as that described in claim 19 or those that depend therefrom. The Applicant submits claims 25 and 26 are clearly patentable over the cited references. The Applicant respectfully submits that the rejection of claim 25 and 26 should accordingly be withdrawn.

#### Independent claim 32

The Applicant submits that neither *Van Wageningen et al.*, *Ahlfors et al.* or any reasonable combination thereof, disclose or suggest the device recited in claim 32. For example, neither reference disclose or suggest “a controller to maintain, for each egress port, a continuous aggregate count of data in each of the queues that is associated with the egress port and has the flow turned on, and to determine a next queue to transmit data from based at least partially on the aggregate counts”. The Applicant submits that *Wageningen et al.* clearly do not disclose or suggest the controller element for at least similar reasons to those addressed above with respect to claim 1. The Examiner does not rely on *Ahlfors et al.* for disclosing the elements deficient from the teachings of *Wageningen et al.* (e.g., controller element) and the Applicant submits that *Ahlfors et al.* do not disclose or suggest these elements. Therefore, even assuming arguendo that there was sufficient motivation to combine these references (without conceding or acknowledging that there is), the combination would not result in an embodiment such as that described in claim 32. The Applicant submits claim 32 is clearly patentable over the cited references. The Applicant respectfully submits that the rejection of claim 32 should accordingly be withdrawn.

#### Claims 33-34

Claims 33-34 depend from claim 32 and therefore are submitted to be patentable over the cited reference for at least the same reasons as claim 32 and for the further features recited therein. The Applicant respectfully submits that the rejection of claims 33-34 should accordingly be withdrawn.

**Claims 6 and 22 were rejected under 35 USC § 103(a) as being unpatentable over *Van Wageningen et al.* in view of *Woo et al.* (U.S. Publication No. 2003/0112817).** The Applicant respectfully traverses the rejection.

Claim 6

Claim 6 depends from claim 1. The Applicant submits that neither *Van Wageningen et al.*, *Woo et al.* or any reasonable combination thereof, disclose or suggest the apparatus recited in claim 1 or the claims that depend therefrom. For example, neither reference disclose or suggest “a controller to continually maintain an aggregate count of data ready for transmission to the destinations and determine next queue to transmit data from based at least partially on the aggregate counts”, as required by claim 1. The Applicant submits that *Wageningen et al.* clearly do not disclose or suggest the controller element for the reasons discussed above with respect to claim 1. The Examiner does not rely on *Woo et al.* for disclosing the elements deficient from the teachings of *Wageningen et al.* (e.g., controller element) and the Applicant submits that *Woo et al.* do not disclose or suggest these elements. Therefore, even assuming arguendo that there was sufficient motivation to combine these references (without conceding or acknowledging that there is), the combination would not result in an embodiment such as that described in claim 1 or those that depend therefrom. The Applicant submits claim 6 is clearly patentable over the cited references. The Applicant respectfully submits that the rejection of claim 6 should accordingly be withdrawn.

Claim 22

Claim 22 depends from claim 19. The Applicant submits that neither *Van Wageningen et al.*, *Woo et al.* or any reasonable combination thereof, disclose or suggest the method recited in claim 19 or the claims that depend therefrom. For example, neither reference disclose or suggest “maintaining an continuous aggregate count of data eligible for transmission to the destinations” or “selecting a next queue to transmit data from based at least partially on the aggregate counts”, as required by claim 19. The Applicant submits that *Wageningen et al.* clearly do not disclose or suggest these elements for the reasons discussed above with respect to claim 19. The Examiner does not rely on *Woo et al.* for disclosing the elements deficient from the teachings of



*Wageningen et al.* and the Applicant submits that *Woo et al.* do not disclose or suggest these elements. Therefore, even assuming *arguendo* that there was sufficient motivation to combine these references (without conceding or acknowledging that there is), the combination would not result in an embodiment such as that described in claim 19 or those that depend therefrom. The Applicant submits claim 22 is clearly patentable over the cited references. The Applicant respectfully submits that the rejection of claim 22 should accordingly be withdrawn.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116

Serial Number: 10/622,285

Filing Date: July 18, 2003

Title: MAINTAINING AGGREGATE DATA COUNTS FOR FLOW-CONTROLLABLE QUEUES

Assignee: Intel Corporation

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (215-230-5511) to facilitate prosecution of this application.

Respectfully submitted,

SUBHAJIT DASGUPTA

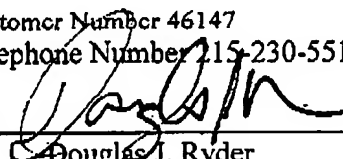
By their Representatives,

Customer Number 46147

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